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Reflections and challenges in Networked Learning

**Nina Bonderup Dohn, Julie-Ann Sime, Sue Cranmer, Thomas Ryberg
& Maarten de Laat**

In our introductory chapter, we identified some general trends in Networked Learning research as they have emerged and faded over the years since the first Networked Learning conference in 1998. This acknowledges the 10th biennial conference in 2016 and the development of research within the field to which the conference series bears witness. It serves also to provide a backdrop for the nine chapters providing the body of this book, based as they are on selected papers from the 10th biennial conference, and speaking as they do to this developing field. In this final chapter, we look back on the issues taken up in the nine chapters and reflect on how they combine to characterize the field of Networked Learning today – with a view to the identified trends of the past and a look to emerging issues for the future. We start with a short recapitulation of the focus of the book's parts and the individual chapters, thereby also providing the reader with an overview of the content of the book. This leads us in the second section of this chapter where we identify broader themes which point out significant perspectives and challenges for future research and practice within Networked Learning.

Summary of issues and perspectives in the chapters

The book is structured into two main thematic sections, Parts 1 and 2, comprising five and four chapters, respectively, and further includes the

Introduction and this concluding chapter. Part 1, entitled *Situating Networked Learning – Looking Back, Moving Forward*, picks up on the Introduction's identification of trends in the field of Networked Learning, by providing an expanded characterization of foci within this field in relation to current debates. From different theoretical perspectives, the three chapters by Parchoma, Jones and Lee do this by reflecting upon the past, depicting the present, and looking to the future. The next two chapters by Cutajar and Czerniewicz supplement these perspectives on developing views by positioning Networked Learning clearly within prominent contemporary discussions. Together, the chapters display Networked Learning as a distinct field within educational research, simultaneously aligned with broader discussions and taking more particular stances on them.

More specifically, the first chapter in Part 2, *Traces of cognition as a distributed phenomenon in networked learning* by Gale Parchoma, explores the notion of 'cognition as a distributed phenomenon'. Parchoma initially argues that in Networked Learning connectivity and dialogue are central pedagogical and philosophical principles, and rather than viewing knowledge as a transmissible property, it is seen as emergent and the outcome of relational dialogue and collaborative interactions embedded in sociocultural contexts. She continues to trace the history of distributed cognition across a number of differing perspectives within Networked Learning. In the section 'De-coding Cognition through Varied Conceptualizations of the Human Mind', Parchoma thus presents five different conceptualisations of the human mind: a neuropsychological, an environmentalist, a phenomenological, a situated sociocultural account, and finally a mentalist perspective. She argues that if one takes a relational view of learning as an

interaction between mind and world, then they can all “accommodate the proposition of cognition as a distributed phenomenon without becoming caught in the dualism of abstract mind and concrete material social practice” (Parchoma, this volume, p. xxx). She then explores how ideas of distributed cognition can be traced in the varying views of ‘networked learning design and facilitation’ and highlights differences between Ingold’s (2011) (individualistic) notion of wayfaring and Goodyear, Carvalho, and Dohn’s (2014) conceptualization of distributed agency as a collaborative endeavour. These social and collaborative aspects are further discussed in relation to how communities are understood within Networked Learning. In conclusion, Parchoma points out that “democratic values and socio-material, relational views of learning experiences” (Parchoma, this volume, p. xxx) are key characteristics of Networked Learning. She suggests that the idea of cognition as distributed can bridge different perspectives and serve as a unifying theoretical concept underpinning the political, ontological and epistemological aspects of Networked Learning.

Parchoma’s chapter is a theoretically very interesting dis-assembling and re-assembling of differing theoretical ideas and perspectives within Networked Learning (and beyond). In the chapter, she zooms to the finer details of differences in theoretical approaches to learning, dissects and distinguishes them from each other, but also re-assembles the parts - though not as a unity or common mass. Rather, she argues that the approaches are all underpinned by ideas of cognition as distributed, and that this understanding can serve as an underlying and unifying perspective. Further, by relating this view to the way design, facilitation and community are conceptualised within Networked Learning, she contributes a more nuanced

understanding of these phenomena. She thus manages to look back into a complex theoretical and conceptual history of both Networked Learning and educational theory, while also contributing a refreshed view of how we can theoretically conceptualise commonalities within Networked Learning in the years to come.

The next chapter, *Experience and Networked Learning* by Chris Jones, is also

firmly influenced by recent attempts to articulate and theorize a socio-material understanding of Networked Learning. The chapter focuses on post-human and actor network theory approaches which de-centre the subject, situating it in a hybrid networked constellation of actors (including humans and machines). Jones embraces and criticizes these approaches by actively researching the place of the human subject and how it informs the development of research agendas within Networked Learning. The main question addressed by Jones in this chapter is therefore: “In what ways can Networked Learning think about and incorporate the idea of experience with regard to de-centred persons in the entanglements forming assemblages?” According to Jones “Experience can be thought of as either the essential distinguishing component of the individual human subject, or experience can be understood as the subjective component of one kind of element in a wider assemblage of humans and machines. In the latter understanding of experience in assemblages human experience does not separate the human actor from other actors in a network and they are understood symmetrically” (Jones, this volume, p. xxx). Here, Jones clearly uses a sociomaterialist perspective conceptualising “knowledge and capacities as being emergent from the webs of interconnections between heterogeneous

entities, both human and non-human” (Jones, this volume, p. xxx). However, Jones defends that human actors have a special place, even if they may be de-centred; one that is not symmetrical with non-human actors. Human actor accounts of Networked Learning are relevant as they “provide an insight into how human actors respond in and to the interactions they encounter in educational assemblages and the world more generally.” (Jones, this volume, p. xxx). They may thus inform both design and understanding of Networked Learning.

Traditionally, the Networked Learning research community has always taken a great interest in qualitative accounts of learning in networked settings and Jones continues this rich tradition and further fuels the discussion by concluding that Networked Learning research “needs to retain a focus on human experience and to develop an empirical and theoretical understanding of how the de-centred human experience in human-machine assemblages can help in the design and development of successful learning networks” (Jones, this volume, p. xxx).

The third chapter in this Part, *Discursive effects of a paradigm shift rhetoric in online higher education: Implications on Networked Learning research and practice* by Kyungmee Lee, takes a critical look at the discursive effects of the ‘paradigm shift’ rhetoric that is commonly used in the advocacy of Online Higher Education. The paradigm shift involves rhetorical moves that position Distance Education (DE) pedagogies as ‘old’ and bounded within a behaviourist-cognitivist paradigm, and instead suggests an intentional, normative move towards progressive, ‘modern’ modes of

learning often associated with ‘constructivist’ and ‘collaborative learning’ as articulated within the field of Online Higher Education (HE). Lee argues that this rhetorical move for one thing diminishes the insights and practices developed within DE, but also more importantly, that it ignores the historical and context-specific reasons for why those practices initially developed. Thus, calls for collaboration and constructivist pedagogies overlook the fact that DE has been committed to providing affordable, accessible learning to a large number of people many of whom might not have the time and resources to engage in ‘collaborative learning’ and would prefer individual, self-paced, flexible modes of learning. Lee traces the development of the paradigm shift rhetoric by critically analysing the paper “Shift happens: Online education as a new paradigm in learning” by Harasim (2000). From a Foucauldian perspective, she argues that the discourse of a ‘new paradigm’ has come to permeate thinking within Online Higher Education, but not necessarily practice, and that it is also dominant within fields such as CSCL (Computer Supported Collaborative Learning) and Networked Learning, despite the latter’s self-understanding of critical scholarship. She concludes that we need to overcome simplistic dichotomies between ‘the old DE’ and the ‘new online HE’ to create a more politically, historically and appreciative understanding of practices that might - at a first glance - sit uncomfortably within the Networked Learning community.

Lee’s chapter stands as an interesting challenge to reflect on both the theory and practice of Networked Learning. She illustrates in her chapter, how there is often a problematic, and somewhat lazy, tendency to latch

onto a discourse of ‘new’ vs ‘old’ and rhetorically locate certain pedagogies as rooted in an ‘old’, instructivist paradigm associated with behaviourist/cognitivist theories of learning. In her chapter she challenges the Networked Learning community not to fall prey to such simple dichotomies and instead appreciate that there might be historical, contextual and practical reasons for Distance Education (DE) pedagogies; reasons associated with access, in terms of affordability, but also in terms of the individual’s time, resources and capacities to engage with demanding forms of collaborative, dialogical pedagogies. As democratic access, equity and opportunity are key principles of education from a Networked Learning perspective, Lee’s chapter is a welcome contribution to help us reflect on, whether Networked Learning pedagogies may at times be at odds with these principles.

In line with Lee’s general points about the gap between rhetoric and practice, the next chapter, *Variation in students’ perceptions of others for learning* by Maria Cutajar, examines the difference between theory and practice in collaborative learning. Through a phenomenographic study, Cutajar questions the assumptions in Networked Learning literature: that active student participation is prevalent in learning networks, that students appreciate the value of learning from others in their network, and that they work together towards a shared goal of improving everyone’s understanding. Her study explores the perspectives of young adults, aged 16 to 18 years, as they engage in Networked Learning in a formal education context to qualify for university entry. It shows how the use of Networked Learning technologies for teaching and learning is a challenge that is not embraced uniformly by learners. In particular, Cutajar’s study points to three

broad, hierarchically inclusive categories of student perceptions of the student-teacher relationship: teacher as director and students as independently learning; teacher as organiser and students as contributors; teacher as convener and students as co-creators of learning. These variations in perception of responsibility for learning in teachers and students are positioned as different positions on a continuum. Responsibility for learning and teaching is assumed to be shared in Networked Learning literature, but these findings suggest that the reality is not as clear. Cutajar concludes that there must be support for the transition into networked learning with reconceptualisation of the relationship between teachers and learners, and broadening awareness of the value of others in learning.

Cutajar's contribution to the field is a qualitative account of learning within a networked setting which continues a long established approach of examining the individual experience within Networked Learning. As argued in Jones' chapter, there is still a need to provide insight into how individuals respond to interactions within a networked learning setting to develop empirical and theoretical knowledge and also assist in refining design and development activities. Cutajar's chapter provides empirical evidence of the different conceptions of the student-teacher relationship amongst her learners, and in so doing reminds us of the potential diversity within student groups engaged in Networked Learning. She calls upon the Networked Learning community to take active steps towards accommodating this diversity in student perception and actively encourage students to embrace different perceptions of others and explore different student roles within Networked Learning.

The final chapter in Part 1, *Inequality as Higher Education goes online* by Laura Czerniewicz situates Networked Learning within current discourses of inequality. Within this general setting, the chapter argues for values-based pedagogically-shaped online learning to circumvent what the author characterizes as an increasingly austere higher education environment. Here, Czerniewicz builds on the initial conceptualisation of Networked Learning as critical and political, therefore having the facility to support and encourage democracy, diversity and inclusion. She problematizes emerging global market-dominated models of online higher education which have profound, potentially negative implications, for the diversity of learners, digital literacy, cultural capital, and language. Thus, she argues that the European and UK drive towards ‘Open Educational Resources’ and ‘Open Access’ could make it more difficult for developing countries “as it means that online content from the global south cannot be found amidst the large volumes of content flowing from the north” (Czerniewicz, this volume, p. xxx). Likewise, ideal models of the capacities of ‘networked learners’ as digital natives can gloss over that the realities are: “of very differentiated learner engagement with the digital world; digital skills which are shallower than previously thought; [...] the minority of active knowledge creation and sharing; activities typically introduced by educators; consumer practices and populist values dominating the digital space, with many feeling excluded or worse (Beetham, 2015)” (Czerniewicz, this volume, p. xxx). These issues, she points out, are seldom recognized, let alone confronted. The chapter draws on Therborn’s equality/inequality framework through interrogation of three types of inequality: vital inequality; resource inequality; and existential inequality. Given this framework, Czerniewicz explores the ways inclusion and exclusion are expressed and

experienced. In conclusion, she emphasizes the urgent need for critical research, inequality-framed intervention, policy and advocacy to bring forth new and more socially just global business models.

The chapter by Czerniewicz's is a useful and important contribution to the field of Networked Learning, given its emphasis on the need for further critical, politically motivated studies and initiatives. It takes an explicit social justice lens to the field and challenges current and emerging inequalities. It helps identify blind spots within the community such as a tendency for overly positive evaluation of increasing openness of resources and institutions. It thus also inspires an increased focus on social justice issues in the future.

Taken together, the chapters in Part 1 situate and exemplify Networked Learning as a field within the broader landscape of educational research. Though perspectives of course differ, so that chapter authors may not necessarily agree to all points made by other chapter authors - nor, indeed, would all authors within the wider Networked Learning community agree to all points - an outline of the current status of the field is suggested by the critiques of sociomaterial renderings of human agency and cognition provided by Jones (this volume) and Parchoma (this volume), respectively, and the challenges to rethink collaboration (Cutajar, this volume), collaborative pedagogies (Lee, this volume) and equality (Czerniewicz, this volume) from the perspective of actual educational practice. A focus on individual learners (networked to others) and their experiences remains important (Jones, this volume), though their agency may be de-centred,

and their cognition best conceptualized as distributed (Parchoma, this volume). Learner experiences may challenge theoretical expectations that idealise e.g. student collaboration, overlooking tensions between student perspectives (Cutajar, this volume), and neglecting the practical circumstances out of which online learning - and Networked Learning with it - spring (Lee, this volume). These considerations exemplify the more general need to critically reflect on assumptions and blind spots in the prevalent rhetoric. The rhetoric, as shown in Czerniewicz (this volume) may hide new inequalities on a global scale emerging out of idealised understandings of e.g. openness. Thus, the chapters in Part 1 between them depict Networked Learning as a field characterized by: a strong interest in theory development, an emphasis on human agency and cognition understood as integral parts of their sociomaterial contexts, and a recurring focus on critical assessment of (one's own and others') presuppositions in theory and practice.

Given this situating in Part 1 of Networked Learning within the general educational research landscape, the chapters in Part 2 have been chosen for their more specific common focus on the current tendency, hinted at in Part 1, to broaden the scope of education beyond clearly demarcated and bounded courses or programs. Part 2 is entitled *New challenges: Designs for Networked Learning in the public arena*. Its chapters explore the use of technology in different ways to cross boundaries and to create learning spaces in the open, public arena as well as between open arenas and the bounded settings of home or school. More specifically, the chapters by Koutropoulos and Koseoglu (this volume) and Alexander and Fink (this volume) both deal with designs for Networked Learning in massive open

online courses (MOOCs) which – being ‘massively open’ – are themselves forms of (near)-public Networked Learning spaces. In contrast, the chapters by Bober & Hynes and Carvalho & Freeman investigate different ways in which Networked Learning through mobile devices can be used in physical, public arenas and to cross boundaries between public, school, and private spaces.

The first chapter in Part 2, *Hybrid presence in networked learning: A shifting and evolving construct* by Apostolos Koutropoulos and Suzan Koseoglu, thus explores the potential for Networked Learning theory and practice to influence the design and delivery of MOOCs. MOOCs are often heralded as innovative, disruptive and revolutionary technology that can address issues of equality by opening up access for all. However, there are significant differences in how MOOCs are designed and delivered and in the underlying vision for education. Koutropoulos and Koseoglu (this volume) argue that the power of a MOOC is not in the delivery mechanism or in its accessibility but in the literacy of the participants and in the pedagogy and learning design. Taking the notion of learners as teachers, the authors reframe the notion of learner presence and teacher presence proposing a new hybrid presence that includes elements of both teaching presence and learning presence but also has its own additional elements. From this new hybrid presence they propose 4 learning design principles according to which teachers need to: 1) “prepare to cede authority” and see themselves as convenors of co-learners; 2) “embrace plasticity” to be responsive to learner voice; 3) “be present with fellow learners” to build relationships with others in the learning network; and 4) “leave assessments at the door” (Koutropoulos and Koseoglu, this volume, p. xxx), providing badges

for participation in learning activities such as reflection, artefact creation or project work, rather than traditional summative evaluation. While Koutropoulos and Koseoglu (this volume) acknowledge that it is not possible to know every learner within a MOOC, they emphasize the quality of relationship between teacher and learner and the role of the teacher as crucial. The learning design principles are therefore offered as a means of improving the quality of pedagogy by promoting hybrid presence within an open Networked Learning environment.

Koutropoulos and Koseoglu's contribution is to theory and practice in the learning design of MOOCs through their proposal for a new hybrid presence and learning design principles for practitioners. As with the chapter by Cutajar (this volume), this chapter examines the relationship between the teacher and learner acknowledging a range of different roles. While Cutajar examines the student perspective on the relationship as it happens in practice, Koutropoulos and Koseoglu examine the teacher role. Their design principles provide support for the teacher to make the transition along the relationship described by Cutajar and transition from director of individual students, to organiser of student contributors, to tutor as convenor and students as co-creators of learning.

The next chapter, *Designing an inclusive intercultural online participatory seminar for higher education teachers and professionals* by Ilene Dawn Alexander & Alexander Fink, further investigates the potential of utilizing open access ideas from MOOCs within Networked Learning, in the context of an inclusive, intercultural online participatory seminar for higher

education teachers and professionals. Drawing upon critical pedagogies and with a commitment to social justice, Alexander and Fink's design for the seminar combines the open access approach of MOOCs with a Networked Learning perspective emphasising community and the fostering of supportive relationships through collaboration, co-construction, and discussion that is critical and reflective. In the chapter, the authors provide an insider account of the process of co-designing, developing and evaluating outcomes, exploring a range of issues in design, particularly: how to counter repressive tolerance so that all voices are heard even when they may raise uncomfortable narratives, e.g. on racism or sexism; and how to include 'lurking learners' ('lurners') and support the wider range of ways of participating online. To address repressive tolerance, the Alexander and Fink propose learning circles where facilitators assist in 3 cycles of a structured discussion with additional responsibility to attend to instances of repressive tolerance and ensure democratic participation. Further, an inclusive design, based on Chavez's six elements of an empowering multicultural learning environment, enable an exploration of the experiences of learners including 'lurners' who did not fully participate in assessment (badge) activities, in order for their feedback to influence the second delivery of the open online participatory seminar. Analysis of survey data found that open participation and open access to resources resulted in 'lurners' using resources and organising learning experiences in a variety of ways within their local settings that were not reflected in the online space.

Alexander and Fink's contribution is to provide a rich example of how practitioners can design, develop and evaluate a MOOC that is inclusive,

democratic and appropriate for a multi-cultural cohort of learners. While they do address issues of inequality in MOOCs as discussed in Czerwicz (this volume), they adopt a learning design perspective and focus on how to support a multi-cultural learning community. They also provide valuable empirical evidence, like Cutajar (this volume), on the experience of learners as they interact with resources. They call for increasing tolerance of difference between learners and how they engage with resources and appeal to educators to provide support for a wider range of online participants. This resonates with Cutajar's call for tolerance of differing perceptions of the student-teacher relationship and aligns with the argument in Jones (this volume) to retain a focus on human experience.

The issue of resource use not being fully transparent to educators is picked up from a different angle in the third chapter of Part 2, *Tools for entertainment or learning? Exploring students' and tutors' domestication of mobile devices* by Magdalena Bober and Deirdre Hynes. The chapter focuses on the use of mobile devices (smartphones, tablets and laptops) across educational and non-educational settings. The authors draw on Dohn's (2014) concept of 'primary contexts' and apply a domestication of technology approach to understand how mobile devices are used (or not) to help learners connect between their 'primary contexts'. Bober and Hynes report a study of staff and student approaches to mobile devices which investigated how mobile devices have been appropriated by users in their everyday lives, how they have become part of daily routines and spatial arrangements, and what rules are being negotiated around their use. Distinct uses of different devices (in terms of university-related and personal uses) were identified,

but also areas of overlapping use. The study showed that students and tutors associate important symbolic meanings with their devices, have incorporated them into daily routines and spatial arrangements in new ways, and attempt to self-regulate use in different situations. The authors compare results from staff and student data, finding both similarities and differences. In conclusion, they state that mobile devices have the potential to bridge between learners' different contexts and to make learning more integrated with their primary contexts. However, realising this potential, they argue, is far from straightforward because of the variety of uses and meanings ascribed to the devices by staff and students alike.

Bober and Hynes contribute with a nuancing of our understanding of the resources used by learners across different contexts. In particular, they provide an explication of the symbolic barriers that both learners and educators may experience to engaging their mobile devices in broadening the scope of education into private spheres. Their study is thus a timely sobering of overly optimistic characterizations of the potentials of the "mobile revolution" for rendering the "networked individualists" of today always accessible, with their homes just "bases for networking with the outside world" (Rainie and Wellman, 2014, p. 12), and of corresponding hopes from educators of seamlessly integrating learners' educational and non-educational contexts.

The last chapter *CmyView: Learning by walking and sharing social values* by Lucila Carvalho and Cristina Freeman, focuses on the use of mobile de-

vices to foster community participation in open, public spaces. The chapter introduces CmyView, a mobile phone application and social media platform, which has a design concept grounded in both digital heritage and Networked Learning perspectives. With it, users make personal trajectories with images and audio recordings as they go for walks in the natural or built environment. These trajectories can then be shared with others, enabling the collection, documentation, and assessment of the social value ascribed by participants to the encountered sites. Carvalho and Freeman report their research on the use of CmyView within the field of cultural heritage. Their empirical study of architecture students' use of the app support their claims that CmyView has the potential both for supporting community curatorship of place and for facilitating informal learning about design and architecture through experiencing the walking trajectory of others. The authors utilize the Activity-Centred Analysis and Design framework, developed by Carvalho & Goodyear (2014), for analyzing the educational design of the app and how it constrained and enabled the activities of the students. The core elements of this framework are structures of place (or elements in set design), task (or elements in epistemic design), and social organization (or elements in social design). In conclusion, Carvalho and Freeman argue that the app offers a space for democratic heritage education and interpretation.

Carvalho and Freeman contribute with a detail-rich example of a successful use of mobile devices to broaden the scope of education into informal, public learning spaces, as well as to create informal user-driven learning opportunities and democratic negotiation of cultural heritage. Their chapter complements the chapter by Bober and Hynes (this volume) by illustrating

that mobile-mediated activities can be experienced as meaningful and engaging by a network of learners when the mobile functionality is utilized for establishing and re-walking specific trajectories. The example is thus an indication that learners' potential symbolic barriers to mobile use across contexts can sometimes be circumvented in practice. One might speculate that the circumvention was due in no small degree to precisely the democratic user-involvement and participants' freedom to negotiate meaningful cultural sites.

Between them, the chapters in Part 2 give detailed examples of the challenges involved in utilizing technologies to broaden the scope of education beyond demarcated physical and institutional educational spaces into the public arena. The chapters illustrate a number of potentials, too, however, as well as provide guidelines and design principles for overcoming some of the challenges. Thus, an initial challenge may be the symbolic meanings attached by participants to the technologies themselves, when they have been 'domesticated' to familiar, personal use. This was shown by Bober and Hynes (this volume) to be a problem for engaging mobile devices across educational and non-educational settings. It may equally apply to other technologies, platforms and sites when used in non-familiar ways or contexts. Similarly, as the scope of education is broadened into the public arena, in terms of participant numbers and/or location of participation, it becomes increasingly hard for educators to monitor the resources learners engage with and the ways in which they do so. This challenge implicitly follows from Bober and Hynes' study (this volume) and is discussed by Alexander and Fink (this volume), who argue for a more tolerant attitude towards 'lurners', allowing them to utilize resources for their own local

purposes even if they do not participate much in course activities. Alexander and Fink identify yet another challenge in the form of addressing repressive tolerance in open, multi-cultural course settings such as their MOOC, and suggest learning cycles of structured discussion to meet this challenge. The design principles developed by Koutropoulos and Koseoglu (this volume) here supply further guidance for addressing divergent student and teacher perspectives in MOOCs through fostering forms of hybrid teacher-learner presence. Finally, Carvalho and Freeman (this volume) show how the the public arena can be engaged in user-driven ways through mobile technologies. They thus provide further illustration that bringing education into the public arena not only poses challenges but holds potentials, too, in particular as concerns enabling new forms of democratic education.

Emerging issues in the field of Networked Learning

In the first section of our Conclusion chapter, we have identified and discussed the contributions which each of the book's chapters make, individually and together, to the field of Networked Learning. In this second section, we take a look at broader issues emerging out of the book's chapters as significant perspectives and challenges for future research and practice within Networked Learning. Many of these issues were touched upon also in other papers presented at the Networked Learning conference 2016, apart from the ones that form the basis for this book – along with, of course, a number of other questions. We draw on these further papers in our account too, as well as on other literature, to enable a more elaborate identification of key issues for our community; today and in the years to come. The conference papers are openly available at

<http://www.networkedlearningconference.org.uk/past/nlc2016/index.htm>.

Learning spaces

As indicated, the Networked Learning conference 2016 sparked a lot of interest and debate in other areas in addition to the ones represented in this book, suggesting further current and emerging trends within the field. One area of interest in particular needs to be mentioned here, as it was addressed in both keynotes (and in several other papers) and actually plays an important, if largely implicit, role for the issues discussed in the chapters presented here, too. This is the focus area of *diverse dimensions of learning spaces*. This area was discussed at the conference in relation to different educational settings, such as Higher Education, and mobile or online networked spaces, such as MOOCs, all of which are well-represented in this book. Interestingly, the area was also discussed in relation to the fluidity of learning in ‘diffused and re-infused [spaces] through open, online information sharing and knowledge construction (Haythornthwaite, 2016). Moreover, it was argued that Networked Learning facilitates the production of ‘newly’ produced space enabled through the ‘complex choreography of on-campus and off-campus practices’ (Bayne, 2016). Other selective examples included Bell’s (2016) exploration of ‘heterotopias’, ‘unsettling fragmentary places’ and specifically how learners need to practice ‘disconnection’ as a digital literacy or capability in order to negotiate learning in spaces such as Social Networking Sites (SNS) that are also sites for advertising. Koseoglu (2016) brought attention to ‘third spaces’, spaces which are ‘neither formal nor informal’ and able to support situated learning. These examples and others at the conference point to the current and emergent importance of research around the many dimensions of learning spaces that need to be explored.

Mobility, new forms of openness and learning in the public arena

The focus on learning spaces further reflects at least two trends in the Networked Learning community and the field of learning and education in general. The first of these trends is the growing awareness of the significance of the socio-material *place* of learning in determining activities, interactions, and learning outcomes (Carvalho, Goodyear, & De Laat, 2017). The second trend concerns what might be viewed as the dialectical opposite of this focus, i.e. the significance of *boundary crossing* (Akkerman & Bakker, 2011; Wenger, 1998) for initiating and inspiring new cognitions and practices. These trends combine also in the first theme which we see emerging from the chapters of this book as an area of focus deserving further investigation in the future: *mobility, new forms of openness and learning in the public arena*.

Networked learning has concerned itself with the theory and practice of establishing connections between people, ideas and resources from the very inception of it as a research field (E-Quality Network, 2002) (Goodyear, Banks, Hodgson, & McConnell, 2004). Very often this has been done from the (implicitly presumed or explicitly articulated) perspective that such connections would empower learners (cf. Parchoma, this volume) both *as* learners within the formal education courses they were taking (Cutajar, this volume, McConnell, Hodgson & Dirckinck-Holmfeld, 2012) and as practitioners in whatever life contexts these courses were supposed to qualify them for (e.g. Pilkington & Guldberg, 2009). In its origin, however, the space focus for Networked Learning research would primarily be that of an

online forum, conference or LMS course ‘hosting’ or facilitating the connections between people, resources, and ideas (as witnessed in the graphs presented in the Introductory chapter of this anthology). The empowerment of connections was thought to happen within the bounded space of such online settings. This has been changing over the last few years. Empowerment through Networked Learning is still an important issue – coming to the fore explicitly in this anthology e.g. in the chapters by Parchoma (this volume), Czerniewicz (this volume), Alexander and Fink (this volume), and Carvalho and Freeman (this volume) – but it is increasingly seen as taking place in the complex interplay between, on the one hand, what goes on at the specific socio-material sites of hybrid physical-virtual learning activities and, on the other hand, learners’ boundary crossing between such sites (Ryberg, Davidsen & Hodgson, 2016). In other words, *mobility* across contexts, as well as *increased openness* towards contexts outside of education, to the point of *taking learning into the public arena*, are all seen as adding new dimensions to Networked Learning. Both narrowly in terms of supplying content otherwise unavailable (e.g. the onsite viewing of buildings recommended by other learners through the CmyView app, reported in the chapter by Carvalho & Freeman) and enabling the articulation of learning objectives not pursuable solely within the space of an online course (e.g. learning academic citizenship, Aaen & Nørgaard, 2015). And more broadly, by fostering connections and increased interaction between people inside and outside of formal education settings (Dalsgaard & Thestrup, 2015), thus diminishing the requirement for actual formal affiliation and taking instead ‘relevance of contribution’ as the pragmatic criterion for participation. With the aim of furthering learning, empowerment, and a sense of community belonging for both those that participate in the formal education and those that do not. In many ways,

this was the original idea behind MOOCs (McAuley, Stewart, Siemens & Cormier, 2010; Mackness, Mak & Williams, 2010), here represented in the chapter by Alexander and Fink, though MOOCs, of course, are still confined to a limited number of online sites. The opening up of learning contexts – both physical and virtual - for participation on the basis of relevance of contribution, rather than formal affiliation, would be an area for further theoretical, practical, and empirical exploration within Networked Learning, in line with the European policy initiative of Opening Up Education and to move towards learning in an open, public arena. The significant challenges which this move implies for higher education policy and pedagogical design should, however, not be overlooked (Jansen 2015). Among these challenges are *the difference between participants*, and *social justice*, which are discussed in the next two subsections, respectively, as well as the potential symbolic barriers involved for participants in transgressing familiar contexts of learning and usages of technology (cf. Bober & Hynes, this volume).

Differences between participants and in participant experiences: implications for the practice of online educators

A further theme well-represented in the conference and in the selected papers for this edited book is understanding the learners' and tutors' experiences of networked learning. This theme is recurrent, rather than emerging, within Networked Learning research; a well-established and overarching theme since the 2002 manifesto, (E-quality Network 2002). And rightly so, research that focuses on the practice of Networked Learning is of perpetual interest, providing valuable insight and as technologies and practices develop, enabling us to: examine the implications for the changing role of the tutor; assess the gap between theory and pedagogical practice;

and suggest strategies for tutors and designers to use to support learning communities. Jones' argument (this volume) for the need to retain a focus on human agents and their first-person perspective even within contemporary sociomaterial accounts of Networked Learning reflects and underpins this theme theoretically.

At the 2016 conference, a central focus within this theme was *differences*, both *differences between participants* and *differences in participant experiences*. Concerning the former, Söderback, Hrastinski & Öberg (2016) discuss a study of the experiences of learners involved in Networked Learning, reporting that some groups of learners experience problems with collaboration while working in small groups due to “large differences in motivation, commitment, prior knowledge and different working schedules” (p401). In addition to reminding educators of the differences between learners, this type of research into pedagogical practice emphasises the need for an improved understanding of how to support and encourage collaboration in small group work. Hanif and Hammond (2016) examine the (differing) experiences of learners in online communities looking at how and why they help others within their online community. Results suggest that helpers are aware of the need to sustain the community and to engage in both receiving and giving help. The paper highlights strategies used for giving help and explains the circumstances surrounding when help is more likely to be given. Finally, it emphasises that helpfulness needs to be grown and nurtured within an online community. While the implications of the findings are not straightforward it is clearly an issue of which educators should be made aware. Cutajar's chapter (this volume), as discussed above, similarly explores learners' differing perceptions of

‘others’ within their Networked Learning environment and the corresponding differences in their expectations towards tutor and co-learners. This leads her to recommend that the difference be recognised and to suggest strategies for supporting different student approaches within Networked Learning pedagogical practice. These three examples serve to: highlight the differences that can exist between learners; expand our understanding of that difference: and remind educators and designers of the need to take these differences into account in their practice. While research like this, that focuses on the detail of pedagogical practice, may not always provide enough evidence to suggest a change to practice, it can provide food for critical reflection by raising awareness of these issues and in some cases may conclude with principles that can inform the professional development of online tutors.

Within MOOCs and other open arenas (cf. above and the chapters in Part 2), the difference in participants is likely to be much greater than in a closed Higher Education setting where entry requirements exist. This difference within the learner population is both a strength and a challenge for educators and designers. The rich experiences of a diverse learner group can provide added value to Networked Learning when participants share their unique experiences; difference can be seen as an opportunity for learning rather than a challenge (Reynolds, Sclater and Tickner 2004). However, the varied past experiences of learning online and differing perceptions of Networked Learning may inhibit and affect ability to access and participate in learning. As indicated, the design of MOOCs to accommodate and benefit from differences between participants is a focal point

of the chapters by Koutropoulos and Koseoglu (this volume) and Alexander and Fink (this volume), as well as of further papers in the conference, for example Czerniewicz, Glover, Deacon & Walji (2016) who study the practices and perceptions of educators as they create a MOOC, in particular examining the educators' understanding of "openness". This supplements the discussion by Koutropoulos and Koseoglu (this volume) of learning design principles for MOOCs that support the relationship between teacher and learner based on a characterization of modes of teacher and learner presence. As for the participatory seminar approach of Alexander and Fink (this volume), their framework of learning circles to structure collaborative discussion amongst participants has been designed explicitly to build positively on differences between participants. This approach is innovative and at the forefront of social justice and democratic participation within the MOOC structure, in contrast to many MOOCs that are based on more instructivist pedagogies.

However, it is also clear from the chapters and papers discussed in this section that re-configuring the relations between learners and teachers is not an easy, unproblematic enterprise. Rather, it is a process involving the re-negotiation of expectations and identities of both teachers and learners. This, along with the more specific issue of learners' different perceptions of the usefulness of collaboration (Cutajar, this volume) point us to Hodgson & Reynolds (2005) and Ozturk & Hodgson (2017) critique of notions of community and its potential association with consensus and pressure to conform. As both texts stress, it is important that we maintain the value of 'difference'. "[T]raditional views of democratic communities are often tainted by unrealistic assumptions about consensus and relationships"

Ozturk & Hodgson (2017, p24). The theme of understanding the learners' and tutors' experiences in Networked Learning therefore, finally, also contribute to wider discussion of the gap between learning theory and pedagogical practice. We return to this below.

Social justice

The theme of 'social justice', forefronted in the MOOC design of Alexander and Fink (this volume, cf. above), and present in other contributions within the book and the conference, represents an emergent focus area within the general emphasis on design for democracy and empowerment often found within Networked Learning research. Returning to the writings of John Rawls (Rawls & Kelly, 2001), an influential political theorist of the last century, he recommends that two principles concerning social justice should be kept in mind.

- 'Each person has the same infeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all.
- Social and economic inequalities are to satisfy two conditions: first, they are to be attached to offices and positions open to all under conditions of fair equality of opportunity; and second, they are to be to the greatest benefit of the least advantaged members of society' (Rawls & Kelly, 2001, pp. 42-3).

Yet as Hytten & Bettez (2011) have noted, social justice within education is often poorly defined and demonstrates 'confusion and conceptual looseness'. This is not surprising given that as McArthur states, social justice is complex without 'easy or simple definitions'. In her book, *Rethinking Knowledge within Higher Education* (2013) she adopts four key aspects to underpin an understanding of social justice: 'that it is multifaceted and

which defies easy or simple definitions, a belief in the dual importance of process and outcomes to social justice; an emphasis on social justice grounded in the relationships between people, and achieved through those relationships; and finally, an imperfect understanding of social justice, such that our goal is to aspire to more justice and less injustice rather than some perfect state of ‘social justice’ (McArthur, 2013, p. 24).

These ideas align with the arguments at the 2016 conference and within this book that issues of social justice should be emphasised more in relation to education generally and within Networked Learning specifically. As discussed, Czerniewicz’s chapter (this volume) made a robust argument that a more critical and political stance needs to be taken in order to challenge the emerging and predominant global market-led model of online higher education and in particular to better promote and support equality and fairness. Other presentations at the conference focused on other aspects of social justice, through articulating roles of Networked Learning in relation to disabilities such as autism or Asperger’s syndrome (Davis, 2016), rehabilitation of people with a brain injury (Konnerup, Castro & Bygholm, 2016) collective well-being (Beetham, Czerniewicz, Jones, Lally, Perrotta & Sclater, 2016), digital capabilities and how work and people are valued in employability (Beetham, 2016), happiness (Zander, Choeda, Penjor & Kinley, 2016), inclusive education (Tarek, 2016), intercultural competence (Duin, 2016), multiculturalism (Raistrick, 2016) and social capital in online environments (Brett, Lee, & Öztok, 2016; Jordan, 2016). The general tendency, however, is for social justice aspects of educational research to remain in the background without being made fully explicit, examined and understood. We need to consider, therefore, how bringing a more discernible social justice lens to other areas within Networked Learning research might act to achieve greater social justice more

generally. Could examining Networked Learning through a more nuanced, granular account of how social justice issues play out in interactions in Networked Learning environments, for example, offer new insights and enable Networked Learning to achieve greater ‘equality of opportunity’ (Rawls & Kelly, 2001)? Given the potentially transformative benefits of such approaches, it would seem to be worth focusing research more explicitly on issues and theories of social justice in order to understand and seek to promote greater social justice in Networked Learning environments.

Critical look at the criticality of Networked Learning

In the wider Networked Learning literature and in the books in the ‘Networked Learning Research’ series, a recurrent theme is critical pedagogy and the promotion of a critical stance towards technology and learning (Dirckinck Holmfeld, Hodgson, & McConnell, 2012; Hodgson, De Laat, McConnell, & Ryberg, 2014; Jandric & Boras, 2015; Jones, 2015; Ryberg, Sinclair, Bayne, & De Laat, 2016). These positions are often highlighted as emblematic of the Networked Learning community and were therefore, unsurprisingly, also present at the 2016 conference and are likewise represented in the chapters of the present book. For example, the practices of critical pedagogy are particularly well exemplified in Alexander and Fink’s chapter (this volume) in their design of the inclusive intercultural online participatory seminar (cf. above). In general, courses rooted in critical pedagogies often seek to establish other relations between learners and teachers, such as more participatory, inclusive relations aimed at co-production of knowledge and mutual exploration of resources in smaller self-organised learning networks and groups, illustrated here in the chapters by Alexander and Fink (this volume), Koutropoulos and Koseoglu (this volume), and Cutajar (this volume).

As has been re-iterated in different writings on Networked Learning, and in this volume by Parchoma, Networked Learning is not underpinned by one particular theory of learning or pedagogy, but rather embraces a number of theoretical perspectives (Jones, Ryberg, & De Laat, 2015). But more often than not these are in line with what we could broadly call constructivist, collaborative or critical perspectives. It was therefore particularly interesting and challenging to read Lee's call to turn the critical gaze of Networked Learning onto some of the assumptions underlying the field itself (Lee, this volume). As discussed, Lee argued that calls for constructivist or collaborative learning are often couched as hegemonic discourses that position some forms of distance education as 'old', 'traditional' and as grounded in behaviourist or cognitivist theories, in contrast to what is promoted as progressive ideas of education. This led her to identify a clear gap between (idealizing) pedagogical theory and the "mundane pedagogical practices" of actual online higher education, including Networked Learning. Following Lee's suggestion of turning the critical gaze upon Networked Learning's own presuppositions, we agree, firstly, that the alleged gap does seem to exist, as also emphasised by for example Selwyn (2014) and Jones (2015), cf. also Bober & Hynes (this volume). Secondly, recalling the graphs in chapter one and the prominence of e.g. 'constructivism' in the field of Networked Learning it does seem important not to fall prey to simplified 'old' vs 'new' conceptualisations of designs for learning. As argued by Lee, there are historical reasons for particular ways of designing for distance education, for example to cater to learners who might not otherwise have access, but also learners that might find it difficult to learn in sync with other learners and prefer a more personalised

pace in a course. Such challenges with multiple learners with varying conceptions and preferences are, as noted, magnified considerably by the surge of interest in MOOCs.

A further point for critical self-reflection for Networked Learning follows from Czerniewicz's (this volume) argument that the trend of global marketisation of online education, witnessed e.g. in relation to MOOCs, may potentially lead to new kinds of inequality: Online higher education, and Networked Learning with it, runs the risk of becoming an even further global North-driven capitalisation of new and emerging markets for education – even if well-meant.

The fast-changing landscape of higher education provision therefore warrants further debate within the Networked Learning community in terms of how we can work for democratised and equal access for education; and not only for students but equally how we ensure a wider global participation of researchers in the development of the global online learning landscape. It poses questions of how we maintain the underpinning values of Networked Learning in a globalised online learning landscape of much richer and varied participation where students enter with different experiences of and expectations of learning. In this endeavour we need to maintain the critical and reflexive roots, and also turn this critical gaze onto Networked Learning itself, and ask whether certain ideas, principles, designs, expectations or assumptions about students might be alienating or exclusive; and whether such understanding might be so deeply rooted within Networked Learning that they can be difficult to see for us.

Different understandings of Networked Learning

Across and behind the different themes identified as recurrent, contemporary or emerging within the field of Networked Learning, we also see new ways of understanding the field itself emerging. More specifically, we see a development of different understandings of:

- A. what the ‘network’ is a network *of*,
- B. how the network is viewed as supportive of learning, and
- C. what it means for learning to be ‘networked’.

The often-cited early definition by Goodyear et al. (2004) states that networked learning is

“...learning in which information and communications technology (ICT) is used to promote connections: between one learner and other learners; between learners and tutors; between a learning community and its learning resources (p. 1)”

Here, the term ‘network’ refers *both* to the ICT infrastructure *and* to the social structure of relationships between people (issue A). This original ambiguity underlined the significance of both technology and people – and not least of their interplay – for providing access to resources and to ways of interpreting the ideas present in them (issue B). Learning was understood as networked in precisely this double sense of coming into being

through the *ICT-mediated* connection with other *people* and their views (issue C).

This early definition lends itself very well to research within higher education or continuing professional development programs where students interact with each other, their tutors, and their learning resources in designated online spaces. This was and still is one very important understanding of Networked Learning, represented in this book e.g. by the chapters by Cutajar and by Jones. But other understandings have emerged, reflecting some of the changes already mentioned in this Conclusion chapter, i.e. the opening up of the spaces of learning, the increasing mobility of technology and people, the interplay of formal and informal education, and the diversity of people involved in learning activities across the formal-informal boundary. The initial focus on connections between people remains an underlying tenet, though with some differences in the role played by other people, along with a basic socioculturally inspired view of what learning is. The following understandings can be identified.

The ‘network’ is a network of people (issue A). This view is represented in De Laat (2012) who states that networked learning “aims to understand social learning processes by asking how people develop and maintain a ‘web’ of social relations used for their learning and development” (p. 26). It is also present in the emphasis which Carvalho and Goodyear (2014) place on *learning networks* in their characterization of Networked Learning (cf. also Carvalho and Freeman, this volume). On this understanding,

and in contrast to the early definition by Goodyear et al., ‘networked learning’ does not necessarily involve ICT, though in specific cases it may of course make use of technology. What makes learning ‘networked’ is the connection to and engagement with other people across different social positions inside and outside of a given institution (issue C). The network is supportive of a person’s learning through the access it provides to other people’s ideas and ways of participating in practice as well as of course through the opportunity to discuss these ideas and ways of participating and to potentially develop nuanced, common perspectives (issue B). This understanding of ‘network’ is particularly relevant for research into professional development in or involving workplace practice as well as for educational programs/courses designed to breach the formal educational learning space by drawing substantially on learners’ connections to people outside of the program/course. Examples of the former are found in De Laat (2012). An example which combines both the former and the latter is reported in Van den Beemt and Vrieling (2016). Here, Networked Learning groups of student teachers, in-service teachers and teacher training educators worked together to improve language learning and teaching in the classrooms of the in-service teachers. For the student teachers, participation was part of their teacher training program, for the in-service teachers it served as a practice-based professional development project.

The ‘network’ is a network of situations or contexts (issue A). This view is indicated in the addition to the early definition by Goodyear et al. suggested by Dohn (2014) in an earlier book in this Networked Learning series. Dohn emphasized the connections “between the diverse contexts in

which the learners participate” (Dohn, 2014, p. 30) as significant for understanding learning beyond designated online learning spaces, and, indeed, within them as well. In the cited chapter, Dohn follows Goodyear et al in positing ICT as the mediator of such connections between the learners’ contexts. However, given the focus of her arguments, the ICT-mediation does not actually seem necessary. Her arguments centre on the way tacit, practical knowledge from one context can be drawn upon in new learning situations to provide propositional knowledge presented in the latter with depth of understanding by letting it resonate with tacit semantic content from the former. This is the sense in which the network, understood as a network of situations, supports learning: by offering tacit knowledge, perspectives and ways of acting from known situations for re-situated use in new ones (issue B). ‘Networked Learning’ on this understanding is the learning arising from the connections drawn between situations and from the resituated use in new situations of knowledge, perspectives and ways of acting from known ones (issue C). Utilizing ICT is one approach to supporting this process, but it might be supported by other means such as physical artefacts or artistic stimulation of senses and feelings. Connections may also be drawn spontaneously by the learners themselves. In the present book, this understanding of Networked Learning is represented in the chapter by Bober and Hynes (this volume), who discuss how mobile devices link (or not) the spheres of education and home environment.

The ‘network’ is one of ICT infrastructure, enabling connections across space and time (issue A). Given this minimal statement, there would not seem to be much to differentiate the approach of Networked Learning from

other perspectives on the ICT-mediation of learning. The support for learning provided by the network is one of infrastructure, i.e. the ease of saving, transporting and retrieving content for future use (issue B). Learning, it would seem, will be ‘networked’ whenever it is ICT-mediated, by that very fact (issue C); perhaps with the proviso that the situations of learning should indeed be separated in space and/or time so that the infrastructure (the ‘network’) is actually brought into play. This proviso would differentiate the field of networked learning somewhat from the field of Computer Supported Collaborative Learning (CSCL), where many studies concern ICT-facilitated group work between physically co-located students. At its most basic, this is the understanding of ‘network’ present in the chapters by, e.g. Czerniewicz and Lee, in this book. It is also, at heart, the understanding of network underlying research focusing on establishing mobile and boundary-crossing connections between places of learning (cf. above). However, as emphasized in the chapters by Czerniewicz and Lee, and as also pointed out several times in this section on emerging themes, *the research field* of Networked Learning is characterized, not only by focusing on ‘networks’, but also by taking a certain *approach* to learning, focusing critically on aspects of democratization and empowerment. That is, studies adopting this understanding of ‘networks’ as ICT infrastructure will only belong to the category of Networked Learning if they address questions such as inequality, democracy, inclusiveness, empowerment or similar social justice issues.

The ‘network’ is one of actants, consisting of both human and non-human agents in symmetrical relationship to each other (issue A). This is the view of Actor-Network Theory (ANT) (Latour, 1993, 1997) which has been

quite popular within the Networked Learning community, as witnessed in the graph of theoretical perspectives presented in the Introduction chapter (cf. also Fenwick & Edwards, 2010; Fox, 2002, 2005). It is a systemic approach to learning, where individual learners' interaction and learning may be analyzed as a result of socio-material entanglement with objects and other people, as in Wright and Parchoma (2014), cf. also Jones (this volume). Alternatively, the system itself may be analyzed, for instance to critique simple notions of community and to point at the implicit standardization of learning in an educational world aligning itself to American-English language and culture (Fox, 2005). The network supports learning in the sense that any learning is in fact the result of concrete socio-material entanglement of physical, virtual, and human actants (issue B). And because such socio-material entanglement is the reality of any learning situations on this understanding, all learning is actually networked learning (issue C).

Similar to the way Parchoma's chapter helps us to understand subtle differences in the theoretical underpinnings of Networked Learning, the approaches presented in this section enable us to grasp variations in understandings of ideas of 'networks' in Networked Learning. While some would argue that ICT mediation is a necessary component in Networked Learning, others emphasise that a network can be understood as a relation between learners even when these relations are not mediated by technology. Clarifying different approaches help readers pinpoint the precise claims made by a given text as well as discern actual agreements or divergences between texts which may underlie immediate appearances. Moreover, in terms of future studies, the characterisation provided of Networked

Learning approaches will support researchers in identifying and demarcating the types of network and Networked Learning that they focus on, thereby aiding their adequate conceptualisation of issues to investigate.

Learning Analytics

Finally, we wish to point to a theme which is rapidly emerging and is starting to become widely adopted by Higher Education Institutes in one way or another, but as yet, has had relatively little exposure within the Networked Learning community: Learning Analytics. Browsing research from Higher Education Institutes on this topic shows that it is rather technology-centred however within the learning analytics community there is a strong debate on putting more emphasis on pedagogies and building an evidence base for learning analytics to fulfil its potential. Tsai and Gasevic (2017) thus identify some of the key challenges of learning analytics as: shortage of pedagogy-based approaches; limited evidence-base to validate impact of learning analytics; and insufficient training opportunities for end users to make effective use of learning analytics. This is not surprising in a new domain of research where various stakeholders and disciplines are still trying to come together and develop a shared language. A further focus is the area of policy and ethics where ethics, privacy and data protection are in general taken very seriously by all countries, though the approach and implementation varies and great cultural differences exist (Hoel, Griffiths & Chen, 2017). However, Hoel, et al. (2017) conclude that even in cultures that give more value to organisational interests, as opposed to an individual focus, learning analytics system designers realize that without the confidence and trust of end-users, new tools will be repurposed or circumvented if the end user only sees them as part of a surveillance apparatus.

The big brother suggestion is still easily made by critics of learning analytics and unless the domain is able to develop shared ethical standards (Hoel, et al., 2017), clearly articulated information policies (Haythornthwaite, 2017) and student engagement (Arnold & Sclater, 2017) around use of data as well as evidence of learning analytics in improving the practice of learning (Ferguson & Clow, 2017), the field may continue to suffer from this critique.

Given the significance of these issues, it is surprising to note that learning analytics in general has not been widely adopted as a research theme in the area of Networked Learning. This was already evident in figure XX in the Introduction chapter, but it remains an interesting question why this is the case. Perhaps it is due to the strong interest in teaching and learning pedagogy in Networked Learning and its association with practice-based research, often at the expense of recognizing technology driven innovation and its potential to drive the research agenda. Another reason can be the emphasis within Networked Learning on social learning, participation based perspectives, criticality and the exploration of sociomaterial relationships that co-create learning environments. Although there is some interest within learning analytics in what is termed social learning analytics (Shum & Ferguson, 2012), most of the attention goes to data analysis and mining in order to understand (and even predict) learning behaviour from a more individual perspective. One example is the design of visualization dashboards aimed at giving teachers better access to information about what is happening in their courses, to understand student attention and retention, and to identify at risk students early. Perhaps due to a more technology driven agenda, this approach tends to facilitate the management of learning

more than improving learning practices. Several papers at the Networked Learning Conference 2016 attempted to align with what is happening in the learning analytics domain, discussing ethical issues related to data protection and privacy as well as research methods for analysing data and providing feedback to teachers and learners (Bayne & Ross, 2016; Perrotta, 2016; Savin-Baden & Tombs, 2016; Sclater & Lally, 2016; Zander, Choeda, Penjor & Kinley, 2016). It is, however, an area where much work still needs to be done and where there is great need for the critical perspectives associated with Networked Learning approaches.

Concluding remarks

The purpose of this chapter has been to reflect on how the book's chapters combine to characterize the field of Networked Learning today and how they draw out significant perspectives and challenges for future research and practice. We have pointed out that

the chapters in Part 1 situate Networked Learning within the general education research landscape as a field with a strong interest in theory development and critical assessment of (one's own and others') presuppositions and some preference for sociomaterial approaches to human agency and cognition. In the context of this general positioning of Networked Learning, the chapters in Part 2 offer different perspectives on a more specific common theme, namely the current tendency to broaden the scope of education into the public arena. In the second section of the Conclusion, we have then identified a set of themes whose significance is emerging: Learning spaces; Mobility, New forms of openness and learning in the

public arena; Differences between participants and in participants' experiences; Social justice; Critical look at the criticality of Networked Learning, Different understandings of Networked Learning, and Learning Analytics.

Looking to the next conference in the Networked Learning conference series, taking place in Zagreb in May 2018, we see several of these themes suggested or explicitly stated in the Call for Papers (cf. <http://www.networkedlearningconference.org.uk/call/themes.htm>). *Critical pedagogy and networked learning praxis* is thus a focus area, as are *Networked learning in the public arena*; *Learning on the move*; and *Learning at scale and across boundaries*. *Learning analytics* and *Big data* are specifically mentioned as examples of methodological approaches to be investigated. This speaks again to the prevalence of these themes within the Networked Learning community today. It also gives reason for optimism regarding the development of nuanced empirical and theoretical perspectives on them in the nearest future. Assuming that the themes will indeed be taken up in papers submitted for the conference, its Proceedings and the following book of selected papers in this Networked Learning Series may well be the future places to search for answers to the questions raised in this chapter.

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